

Introduction to the Hydrogen TCP



Hydrogen TCP

H2TCP IN A NUTSHELL



33

Members

25 Member Countries
+ European Commission
7 Sponsors

50+

Tasks

10 Open
40 Finished
3 Preliminary
Proposals

500+

Experts involved

In collaborative research on
hydrogen technologies

Strategic Plan 2020 - 2025

A future where **hydrogen plays a key, cross-cutting role** for the world economy in a sustainable, global, integrated & flexible energy system.

VISION

Facilitate, coordinate and maintain innovative RD&D activities as a **hub for international cooperation and Knowledge exchange.**

MISSION

STRATEGY

Accelerate the implementation and widespread efficient use of hydrogen to minimize global warming, optimize environmental protection, improve energy security and contribute to sustainable economic development - and preserving the hydrogen TCP as a **leading global source for hydrogen expertise.**

COLLABORATIVE R.D & D

- H₂ storage
- Integrated H₂ systems
- H₂ integration in existing infrastructure
- H₂ production

ANALYSIS THAT POSITION HYDROGEN

- Technical
- Market
- Policy support & Political will

H. AWARENESS, UNDERSTANDING & ACCEPTANCE

- Information & Dissemination
- Safety
- Outreach

Strategic Plan 2025 - 2030



VISION

A world where **clean and affordable hydrogen** plays an essential cross-sectoral role in a secure and sustainable energy future.



MISION

To **accelerate the development and deployment of safe and sustainable technologies for production, storage, and delivery of clean and affordable hydrogen** and its derivatives for use in industry, mobility, heating, and power.



STRATEGY

To **align and facilitate innovative research, development, and demonstration activities** as a hub for international cooperation and sharing knowledge.

FOCUS AREAS

Technical Leadership

Continue to provide technical leadership in the international hydrogen community

Collaboration

Enhance collaboration to establish the H2TCP as a leading participant in global efforts to advance hydrogen technologies and address energy transition challenges

Communication and Outreach

Strengthen communication channels and outreach initiatives to effectively distribute information, and foster engagement

Internal activities organization of the H2TCP

● LEADERSHIP TEAM

The Hydrogen TCP Leadership Team is composed by the Chair, Paul Lucchese, and the two vicechairs, Marcel Weeda, and Eric Miller.

They make executive decisions within the framework of the general activities and budget previously approved by the Executive Committee.



Internal activities organization of the H2TCP

● STRATEGIC PLAN IMPLEMENTATION AND TASK PORTFOLIO ALIGNMENT (SPI & TPA) TASK FORCE

- Revision of Tasks' advancements based on the Strategic Plan and Tasks' workplans to optimize the operation and procedures of Tasks.
- Coordination among Task Managers/Task Organizers
- Establish and follow-up indicators to ensure the achievement of SP goals

● FINANCE TASKFORCE

The Finance Taskforce aims to explore efficient ways to improve Budget expenditure and align it closely with the objectives of the Hydrogen TCP.





Main Hydrogen TCP activities

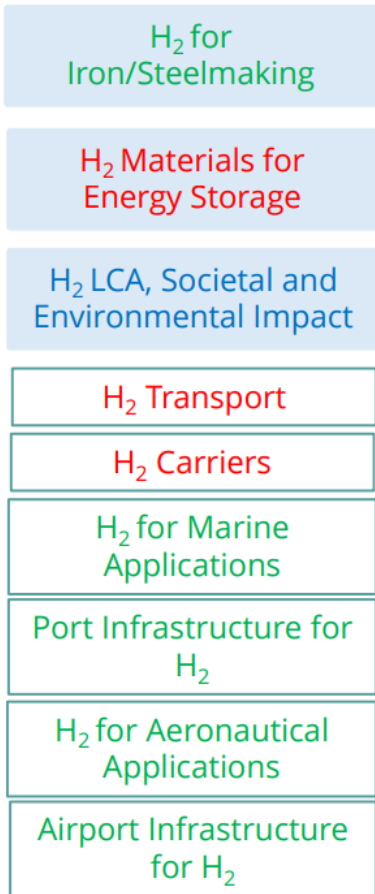
1 Tasks

2 Strategic Activities

3 Collaborations



Task portfolio status



Task 50 - Cost and Carbon Intensity Analysis and Model Comparison of Hydrogen Supply Chains

Task 49 - Natural H₂

Task 47 - Certification H₂ and Derivatives, R&D

Task 46 - Off-shore H₂ Production

Task 45 - Renewable H₂ Production

Task 44 - HYNE

Task 43 - Safety and RCS of Large-Scale H₂ Energy Applications

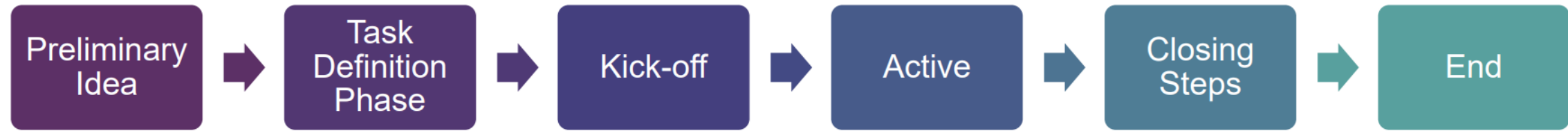
Task 48 - Future Demand of H₂ in Industry

Task 42 - Underground H₂ Storage

Task 40 - Energy Storage and Conversion

Task 41 - Analysis and Modelling of H₂ Technologies

1. **Technology, Innovation/Science-based Task**
2. **Analysis Cross Cutting Task (LCA, Economic, Societal)**
3. **End use application**
4. **Energy System-based Task**
5. **Codes Standards Certification Safety**





Strategic Activities

Main Hydrogen TCP activities



What are the strategic activities?

Complementing its primary focus on **Tasks**, the H2TCP has developed different Strategic Activities to support achieving its long-term objectives and fulfilling its mission.

- H₂ IEA Hydrogen Coordination Group
- H₂ H2TCP Awards of Excellence
- H₂ TRL Assessment



IEA Hydrogen Coordination Group

Objective:

- ⚙️ To **map and align all the hydrogen activities** within the TCPs on the IEA.
- ⚙️ **Identify overlaps or synergies** between the different programmes.
- ⚙️ **Organize joint activities** across the TCP network but also together with Mission Innovation's Hydrogen Mission.

A detailed and **updated mapping** document of current hydrogen-related activities across all TCPs.

A **proposal of joint activities** between various TCPs and in some cases with IEA secretariat participation.

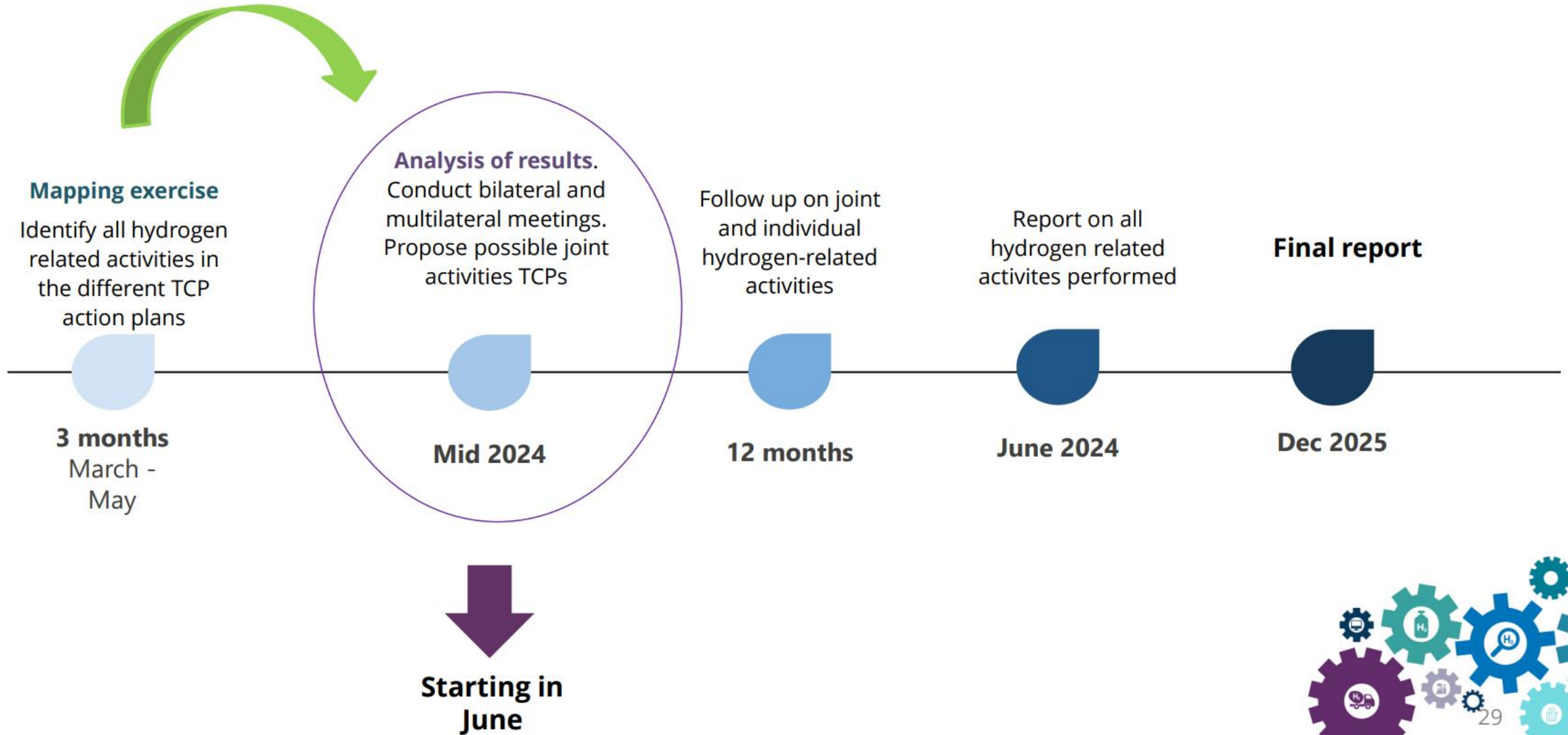
Outputs:

A global report on the achievements of the activities carried out by the Coordination Group.

A comprehensive **database of experts** to answer quickly and fast check facts and issues raised.

Possible **technology briefs and recommendations to IEA and governments**, including Identification of knowledge or technology gaps and direction to TCPs for setting future tasks and priorities.

Hydrogen Coordination Group



Hydrogen TCP Awards of Excellence

- ✓ To recognize excellence in international collaboration in research, development, and application of H₂ technologies.
- ✓ To leverage innovation in H₂ technologies and applications.
- ✓ To promote and increase the outreach for winning and finalist projects.
- ✓ Public/private energy companies, start-ups, universities, and research institutions can participate



2024 Topic: “Hydrogen: Enabling Energy Transition”

The Award of Excellence is a joint action of the IEA Hydrogen TCP and the Clean Energy Ministerial Hydrogen Initiative (CEM-H2I) to recognize excellence in hydrogen technology projects around the world and provide a platform to showcase the winning projects.

To learn more about the 2024 awards: <https://www.ieahydrogen.org/hydrogen-tcp-awards/>

Organization Committee 





Task 40

Energy Storage and Conversion Based on Hydrogen

[Learn more](#)



Task 42

Underground Hydrogen Storage

[Learn more](#)



Task 43

Safety and RCS of Large Scale Hydrogen Energy Applications

[Learn more](#)



Task 44

Hydrogen from Nuclear Energy

[Learn more](#)



Task 45

Renewable Hydrogen Production

[Learn more](#)



Task 46

Offshore Hydrogen Production

[Learn more](#)



Task 47

Hydrogen Certification

[Learn more](#)



Task 48

Future Demand of Hydrogen in Industry

[Learn more](#)



Task 49

Natural Hydrogen

[Learn more](#)



Task 50

Cost and Carbon Intensity Analysis and Model Comparison of Hydrogen Supply Chains

[Learn more](#)